

THE CALIFORNIA VETERINARIAN

Our Beloved



Dr. Clarence Melvin Haring
1878 - 1951

**JULY - AUGUST
1951**

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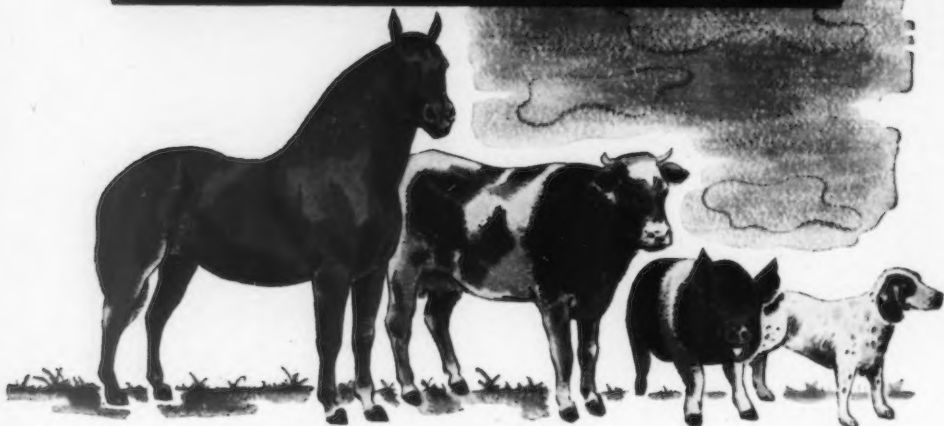
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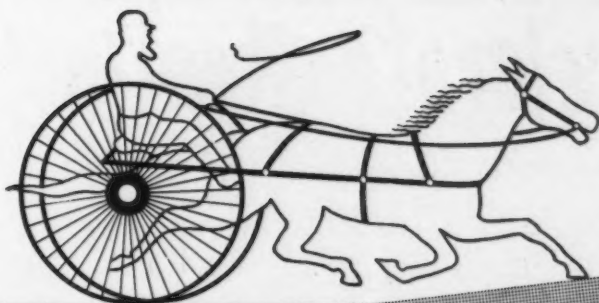
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Mires, M. H.: Nitrofurazone—A Practical Antibacterial Agent for Bovine Mastitis, J. Am. Vet. M. A. 117:49 (July) 1950.

Mires, M. H.: Nitrofurazone with Penicillin in Bovine Mastitis, Vet. News 14:9 (May-June) 1951.

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Dr. Clarence Melvin Haring

1878 - 1951

Occasionally there appears among us a quiet unassuming individual whose presence is known but not impressive. Yet in retrospect one is astounded at his achievements and attainments and only then realizes what a potent fact that individual was in events pertaining to his sphere. Just such an individual was Professor Emeritus Clarence Melvin Haring, who passed away, in Berkeley, California, July 9, 1951.

Doctor Haring, the son of Purly Work and Ellen Ainsworth Haring was born in Freeville, New York, June 1, 1878.

After graduating from high school at Addison, New York, he attended for a year Colgate Academy, now Colgate University.

He taught first in New York rural schools and then in Addison High School where in 1901 he was granted a life certificate, first class, to teach in New York schools. That year he entered the New York State College of Veterinary Medicine at Cornell University, graduating in 1904.

After graduation he came to the University of California as an instructor in bacteriology and veterinary science. He was made a full professor in 1913, Director of the University Agricultural Experiment Station in 1920, and first dean of the veterinary school in March 1947. On July 1, 1948, after 44 years of continuous service to his University and State he was retired, becoming Professor Emeritus and also Veterinarian Emeritus in the Experiment Station.

In the words of Doctor Claude Burton Hutchinson, Vice President of the University of California, in an address given at Dr. Haring's funeral:

"Over the years, and with the help of his associates, Doctor Haring developed in the University of California one of the nation's most outstanding centers for studies of animal diseases. The results of the investigations which he conducted or directed have contributed much to the well being of the livestock, dairy, and poultry industries of California. His personal contributions were many and important, falling chiefly in the fields of bovine tuberculosis, cholera of swine, anthrax of cattle, encephalomyelitis of horses, and brucellosis of cattle, in all of which he was a leading authority."

Doctor Haring served his country during the first world war as a Captain in the Veterinary Corps, and in World War II as a civilian consultant to the War Manpower Commission.

During his entire life he was closely identified with organized veterinary medicine. He served in many offices and committees in the organizations of which he was a member. He was secretary of the AVMA (1915-16) and served on many important committees over the years. He joined the California State Veterinary Medical Association on his arrival in the State in 1904, serving as secretary (1907-08), Vice President (1916-17), and President (1917-18). In 1948 he was awarded a life membership in that organization. In the same year he was likewise awarded a life membership in the Bay Counties VMA an organization he helped to found, and served until his retirement, having occupied all of its offices.

He attended, as a delegate, the Second World Poultry Congress, the International Congress on Tuberculosis, and the twelfth and thirteenth International Veterinary Congresses. He was a member of the United States Livestock Sanitary Association, The Commission on Brucellosis of the United States from 1938 to 1949, and a consultant in animal husbandry to the California State Board of Health. From 1942 until his retirement he served as chairman on the University of California Commission on Buildings for the New Veterinary School at Davis. Dr. Haring was married to Grace Moody Haring who died April 29, 1948.

To again quote Dr. Hutchinson: "Doctor Haring's last and undoubtedly most permanent contribution to the welfare of California and the nation was the role he played with great wisdom and foresight in planning and organizing the School of Veterinary Medicine at Davis, which he served for two years as its first dean.

"A stimulating teacher, a distinguished scientist, an able administrator, modest to a fault in personal matters, and beloved by all, Clarence Melvin Haring's was a good, rich, and useful life.

"Truly, the world and all who knew him, are the better for his having lived."

REPORT OF PROCEEDINGS OF ANNUAL CONVENTION

Santa Barbara, June 25, 26, 27

Santa Barbara is always a pleasant city, even when the weather doesn't come up to Southern California standards. The Mar Monte Hotel is a friendly place, with exceptionally good food, and the pavilion where our sessions were held was entirely adequate for our group. Although from the Association standpoint the attendance was very low, we enjoyed ourselves more than if the rooms had been overcrowded. We are glad to report that members did not rush away after the banquet, but stayed until the conclusion of the Wednesday morning session. This proves that the program was excellent.

Some exhibits were placed in the lobby outside of the general meeting room, where we could examine them and talk with our friends in charge. Other exhibits were inside the room, which was inconvenient because we could talk to these exhibitors only in the hectic minutes between sessions.

MONDAY

Mayor Montgomery was unable to make his scheduled address because of illness; however, Dr. Helen Hart, City Physician, most graciously welcomed us to Santa Barbara. She was introduced by Dr. Colton. Dr. White responded, and also thanked all who had worked so hard for the success of the meeting.

Public Health. W. L. Halverson, MD. Rabies is still a disease of major importance, being endemic in many states and involving wild life as well as dogs. Rabies can be eradicated as soon as public interest is aroused and control programs unified.

The menace of brucellosis to public health is hard to judge because of the difficulty of accurate diagnosis in man. There is apparently no person-to-person transmission, but horses, sheep, dogs and chickens may serve as reservoirs.

Q fever is a menace to human rather than animal health, and modes of transmission are still undefined. Vaccination may prove an effective preventive.

Of 400 deaths from encephalitis, less than 20 per cent could be imputed to an equine virus. Not much is known about the encephalitides, and the problem requires the joint efforts of the medical and veterinary professions.

Salmonellosis may occur in practically any animal, and control depends on adequate cooking and sanitation.

Tuberculosis appears where it has been supposedly wiped out, suggesting that the future of this disease is very uncertain.

Laboratory Tests. D. E. Barr, DVM. Routine blood counts pick up many filariae. Symptoms include timidity, coughing without known reason, and weeping eczema with itching worse

after four p. m. He uses 0.5cc sodium citrate to 5cc blood, and does a differential count and sedimentation rate.

In hepatitis there is usually leukopenia for a few days, and then the count may return to normal or excess. In tonsillitis there may be 20,000 to 30,000 white cells, uncorrelated with fever. A white cell count is also useful in coughs. The count rises after feeding, which can be a source of error, and may not rise typically in old chronic cases.

The Wintrobe tube is useful for prognosis, and may give an idea of the red and white cell counts and hemoglobin along with the sedimentation rate. The column falls faster in disease, and a very rapid rate means a grave prognosis regardless of symptoms.

Pups that cry and urinate when presented for vaccination are not good risks. Erythrocytes are found in the urine, but no albumin. They may be carried on serum until the hematuria decreases. Arsenic is useful for dogs that spray urine habitually. Cocker with frequent urination may have crystals in alkaline urine; acidifiers will help. Pups with lesions like ringworm or eczema may show hematuria; this may be related to hepatitis, and serum and antibiotics are indicated.

Anemia or chronic heart conditions may produce albuminuria. Intestinal obstruction can produce symptoms of chronic nephritis.

Testicular Tumors. N. B. Friedman, MD. Dr. Reid introduced this unusually interesting speaker, part of whose material appeared in the May-June issue.

A tubular tumor may load a dog with estrogen, leading to feminization or to stimulation of the interstitial cells which produce androgen. Interstitial cell tumors can be produced in mice by large doses of estrogen; in castrated rats a tumor of the adrenal cortex may result. Ectopic adrenal cells may occur in the testis but can be differentiated microscopically.

In man and the chinchilla, but not the dog, we find chorioepithelioma, recognized by extensive hemorrhage and necrosis. Metastases may not resemble the parent tumor. Teeth and hair appear in the ovary, but not in the testis, which suggests that the ova and sperm might differ in inheritance; however, a different endocrine environment may just as well be responsible. Chorioepithelioma does not occur in women, who may therefore have a natural endocrine resistance.

Germ cells apparently do not originate in the genital fold, but migrate there along the primitive gut, which explains the finding of testicular tumors elsewhere than in the testis.

Many cancer tests rely on changes in serum protein; but such changes may be caused by a variety of ailments, leading to a high percentage of error.

Cancer Research. I. MacDonald, MD. The growth rate of cancer varies with the type; a basal cell sarcoma of the skin may remain very small for ten or fifteen years before breaking down, while a melanoma may cause death in a matter of weeks.

Methods of treatment increase in number but not in efficiency. Surgery and irradiation are still the only methods of cure, though other treatments may palliate. There is no reason to believe that an increase in voltage or varieties of radioactive isotopes will be an improvement on older methods. Nitrogen mustards are used for lymphosarcoma and Hodgkins disease, but the margin of safety is small and relief transient. Nitrogen mustard will resensitize patients who have become resistant to X-ray.

Treatment of prostatic tumors with estrogen may give dramatic relief, but does not cure. Estrogen is also given for post-menopausal mammary tumors, although androgen is indicated for the premenopausal type.

Although the cause of cancer is unknown, some predisposing and precipitating factors have been identified. The proportion of skin cancer varies directly with the exposure to sunlight in the area. Mouth and throat cancers, in men only, seem to follow a long period of protein and B complex deficiency. Heredity is important in breast cancer, and women who have no children, or do not nurse them, are more liable. Colon polyps are commoner in men and there is usually a genetic background. Obesity predisposes to cancer.

If elements can be found which cancer tissue requires, but normal tissue does not, then deprivation will upset cancer metabolism without harming normal tissue. The present search for anti-metabolites offers the best hope for effective therapy.

TUESDAY

Surgical Technic. J. Farquharson, DVM. Catgut is the safest general suture, although all sutures currently offered are satisfactory when properly used. The holding power of the tissues, rather than of the suture, is to be considered. A film showed various methods of tying knots.

LARGE ANIMAL SECTION

Infection in Barren Mares. J. J. Hird, DVM. Barrenness in mares may be due to the structure of the genital tract, endocrine disorder, or infection. Dr. Hird treated 54 problem mares with highly inflamed vaginal mucosa and barrenness of several seasons' standing. A swab was passed aseptically through a speculum into the uterus, then plunged into sterile broth. Growth was the same whether the swab was mailed to the laboratory or transported immediately. Bacteria in the cervix were accompanied by bacteria in the uterine mucosa. Culture in veal blood agar showed that beta-

hemolytic streptococci caused the most trouble, although alpha and gamma types were also pathogenic. *E. coli* was of next importance. *Staph. aureus* and *albus* and salmonella were causative agents in some cases.

The source of infection was usually a loose vulva allowing inspiration of air and filth. This is common in old mares or those with chronic diarrhea, and may follow kick wounds in the vulva. Lay treatment may introduce dirt; improper washing of stallion and mare before breeding may be responsible; contaminated matter may enter after foaling; or a careless veterinarian may use an unclean speculum. Suturing or clamping the lips of the vulva is probably the best preventive. If infected mares conceive, foals may be still-born or weak. Joint infections are common.

Dr. Hird does not find powders useful. He prefers penicillin 1,000,000 u.; sulfathiazole, sulfapyridine, and sulfamerazine aa 5 Gm.; and streptomycin 2.5 Gm.; introduced with an intravenous outfit after the rectum has been emptied and the parts washed and dried. The uterus is then massaged per rectum. One or two treatments a week apart at successive estrual periods gives satisfactory result. Polyvalent bacterins were used weekly in increasing dosage of 5, 7.5, and 10 cc. as needed to give a systemic reaction, and extract of sheep pituitary was also given weekly. The animals were put on pasture if possible, and given good hay and grain and cod liver and linseed oils. Sexual rest was required until infection was absent.

Equine Estrual Abnormalities. J. W. Britton, DVM. Fifty thoroughbred mares, excellently kept, were studied over a period of four years. The cold weather was the only known factor that might have influenced their estrual periods. In maidens, periods averaged 8 days with a spread of 1 to 45; 61 per cent had the normal 3 to 7 day period. Barren mares averaged 9 days with a spread of 1 to 83; 58 per cent were "normal." Foaling mares averaged 4 days with a spread of 1 to 20; 77 per cent were "normal." Diestrus lasted an average of 16 or 17 days in all, and foaling mares again had the best record, 75 per cent falling within the normal range.

No mares were bred on the ninth day. Nineteen per cent came in 23 to 26 days after foaling, 50 per cent 27 to 31 days, and 23 per cent even later. Teasing is the most tedious and important job and must be done every other day throughout the breeding season. It is convenient to bring all mares into a breeding corral, with the stallion on the other side of the gate, so that the mares can be brought by one by one. With a reliable stallion, teasing can be done in the pasture. It should be remembered that some mares will show to one stallion but not to another.

Twelve of 40 maidens showed "normal" heat, 20 of 69 barren mares, and 127 of 146

foaling mares. Some mares not showing heat were overly fat, and those with a small wrinkled vulva were likely to be anestrus. Maidens by one particular horse were bad breeders and likely not to show heat.

When stilbestrol was used to induce heat, some mares conceived at once. Usually one or two injections, a week apart, caused heat to appear in a day or two, lasting two days. Some came in regularly after that. Mares in silent heat, determined by speculum examination, conceived in one breeding; silent heat seems habitual. Mares rarely breed on the first half of a split heat, and there was some trouble with those who had long periods.

Hormones. H. H. Cole, PhD. Hormones giving specified effects on selected test animals will not give identical results on patients, which are unselected and vary in their reactions. Normal hormone levels are unknown, and change from hour to hour, and intelligent hormone therapy requires more information than is available.

Steers and heifers will grow faster, with greater protein deposition, if 60 to 120 mg. of stilbestrol is implanted subcutaneously. However it was found that the vaginas of the heifers began to prolapse in three months.

Anterior pituitary and pregnant mare serum have been used intravenously at Davis for long-standing cystic ovary in cows, but without success. This treatment is useful for mares on the first day of heat, as it will cause ovulation in 48 hours. It will also increase the number of ova matured.

Penis Fracture. J. Farquharson, DVM. Fracture of the penis occurs during the breeding season, usually when a small or weak cow goes down under a heavy bull. The dorsum of the corpus cavernosus ruptures just in front of the S curve; there is no interference with urination. Hemorrhage is profuse, and stops only when sufficient pressure is built up by the consequent hematoma. There is no inappetence, no fever, but slight temporary staggering; swelling may be noticed, with perhaps, prolapse of the prepuce.

The operation should not be performed on the first day, as bleeding will start again; nor should it be delayed until after the fifth day when fibrin will be a problem. Dr. Farquharson prefers the third or fourth day, and likes true spinal, not epidural, anesthesia. Merely cleaning up the area and letting it heal by second intention invites adhesions and is not much better than no operation at all. The area should be washed and shaved, and a liberal incision made parallel to the penis. Blood clots are all removed and all fibrin cleaned from the penis, which may be drawn out through the opening. The ruptured place is freed of blood clots, and gelfoam inserted to control new bleeding, after which interrupted sutures of 20-day gut are placed. The skin incision is then closed and the bull turned out. Rest is in-

advisable; the bull should be exposed to a nymphomaniac or cows in season.

The film was brief and showed the operation very clearly.

Bovine Reproductive Failure. A summary of Dr. Tanabe's paper will be printed in a subsequent issue.

Triple Threat of Brucellosis. This BAI film has both color and sound. It gives a rather Hollywood representation of how brucellosis can spread through the purchase of infected animals which are then turned in with a susceptible group. This part of the film was a bit hard to follow, and there were too many trains rushing somewhere. The rest of the film dealt enjoyably with the history of brucellosis. Bruce is shown discovering his micrococcus among the sick in Malta; Bang examines his bacterium; Evans peers through her microscope; Buck discovers Strain 19; Traum discovers *Br. suis*. Alice Evans in person gave a brief talk on undulant fever from her own experience. The actor representing young Traum was plausible in appearance, but Dr. Buck did not resemble himself at all.

Mastitis Control. Dr. Ozanian had the privilege of introducing Frank Pellissier, whom it was a real pleasure to have on our program. He was followed by Dr. Schalm, who gave a clear and to-the-point discussion of the facts about mastitis control. Both these papers will appear in the *California Veterinarian*.

Contract Veterinarians. J. King, DVM. Brucellosis control began as an industry project, but through the efforts of the state bureau the practicing veterinarian was included in the picture before the bill reached final form. We all wanted a part in the program, especially the young men who had not experienced TB eradication. However, signing the contract means doing the work even if inconvenient; one can't just skim the cream.

Some areas have already almost 100 per cent vaccination, and others are far behind, because different areas have different problems. Problems now faced are all local and involve only a few people; the program as a whole is going very well. Welding 270 practicing veterinarians into a team has been difficult, but in a short while those who do not really want the work will turn in their contracts voluntarily.

Lay help should be available if needed, but a bill to provide it was withdrawn from the last legislature because veterinarians felt that plenty of practitioners would be available. We must now deliver the goods.

Brucellosis Control. Dr. Boyd's report on the program will be presented in a later issue of the *California Veterinarian*.

The Banquet

The banquet was held in the dining room and lobby of the Mar Monte Hotel, and Dr. Carricaburu served as toastmaster. Important

members and guests were suitably introduced, beginning with our indefatigable Secretary Travers, to whom much of the credit is due, as usual, for the success of the meeting. Dr. Hurt was presented with a certificate of life membership in the CSVMA.

Entertainment followed, consisting of a troupe of dancers who performed well in the limited space available, and a magician who gave a superb show. Tables were then cleared away for dancing.

WEDNESDAY

Bovine Blood Groups. A résumé of Dr. Stormont's talk will appear in a subsequent issue of the *California Veterinarian*.

Fluid Therapy. Dr. Davidson's paper will appear in a subsequent issue of the *California Veterinarian*.

Cranial Fracture. J. Farquharson, DVM. This film showed a dog with compression fracture of the skull, causing incoordination, and the operation which relieved the condition. A midline incision from the crest was followed by reflection of muscles and removal of bone fragments. The periosteum was saved and sutured with catgut. Recovery was complete in about two weeks.

Diaphragmatic Hernia. J. R. Dinsmore, DVM. Diaphragmatic hernias occur at the venous orifice, the costal attachment, and the esophageal orifice, in that order of frequency. Abdominal breathing aggravated by exercise is characteristic, but occurs also in acute pulmonary disease, hydropericardium, chronic heart disease, spontaneous pneumothorax, and foreign body. X-ray examination should differentiate if viscera are present in the thorax. One picture is taken immediately after barium is given and another in about half an hour. If the opening is too small to admit more than omentum, radiology will not aid in diagnosis.

Repair through the abdomen is necessary if the site of the rent is unknown but the viscera make this approach inconvenient. It is probably best to operate as soon as the diagnosis is made, if there is no severe internal injury. About half the patients are saved. The rent is closed with chromic gut, and reinforcing sutures are used. To repair a costal hernia, incise at the seventh space, and attach the diaphragm at the incision. Dr. Dinsmore spoke from Dr. Secord's experience as well as his own, and illustrated the talk with slides.

Cyclopropane Anesthesia. S. A. Peoples, MD. Cyclopropane gas is odorless, almost tasteless, very potent, readily absorbed, and rapidly eliminated. A tank costs about \$30, which means \$3 to \$6 per hour for equine anesthesia. There is not much margin of safety, but artificial respiration is effective. Dr. Peoples has used cyclopropane on sheep, horses, and cattle, for as long as an hour without ill effect.

The mask was made of rubberized canvas;

the tube must be larger than the trachea. The air passes through a two-pound coffee can containing soda lime and then through a T fixture connected with a large bag (beach ball), and oxygen and cyclopropane tanks. A heavy gas mixture is used for induction for the sake of speed, after which the animal re-breathes the gas. The lime removes the carbon dioxide and oxygen is added as needed. If the animal stops breathing, the bag is flooded with oxygen and squeezed, which suffices for artificial respiration, until breathing is normal.

Cyclopropane causes arrhythmia of the heart in dogs and man, but intravenous procaine will abolish this effect. It does not seem to occur in the large animals. The mixture is highly explosive, although not so much so as ether, and due precautions must be observed. Cyclopropane may be used for animals in poor condition as it does not depress the heart or carbohydrate metabolism. Recovery from anesthesia requires only five to fifteen minutes.

The group requested that Dr. Peoples give a demonstration of cyclopropane anesthesia at the winter meeting at Davis.

Conference of Public Health Veterinarians

The Fifth Annual Meeting of the Conference of Public Health Veterinarians will be held in San Francisco on October 29, 1951, the first day of the American Public Health Association Convention. Arrangements have been made for talks and discussions on topics of interest to veterinary public health and related fields. These topics will include Civil Defense, Animal-Borne Disease Control, Milk Hygiene, Poultry Inspection, Rabies Control and other topics of interest to veterinarians. The program will also include an evening banquet and speaker. All veterinarians and others who are interested in the activities of the veterinary profession in public health are invited to attend.

Dr. Joseph Arburua Elected to the AVMA Executive Committee

Just before going to press we received word that Dr. Joseph Arburua was elected to the executive committee of the AVMA to represent the Sixth District comprising Arizona, California, Canal Zone, Central America, Colorado, Mexico, Nevada, New Mexico and Utah.

New Applications

S. Morris Goldberg, San Francisco. Vouchers: Bruno Turkheimer and Richard Stowe.
Leo S. Goldston, Oakland. Vouchers: Nels Nelson, Robert Olsen.

QUESTION AND ANSWER LUNCHEON

The luncheon was held in the Mar Monte lobby, while the ladies occupied the dining room. Unfortunately some of our program came through to them while microphones were out of adjustment, and at one point they were justifiably distressed to receive a talk on urinary calculi in cats with violin accompaniment, instead of a solo. Questions and answers noted were as follows:

1. Why doesn't California keep out rabies by limiting import of out-of-state dogs? Dr. Ben Dean: There is not much point in trying to keep out rabies when we have so much of it. The state must first require vaccination of our own dogs.

2. Why would tonsillitis follow the use of cotton sutures? Dr. James Farquharson: Local infection at the suture sets up focal infection elsewhere, commonly the tonsils.

3. How do you handle fracture of the sesamoid bone in the dog? Dr. Farquharson: Take an x-ray and if it is causing trouble from exostosis etc. the bone would have to be removed. Have never seen one.

4. What is your heartworm treatment? Dr. D. E. Barr: Have used fuadin, but recently used caricide with dramatic results. In a difficult case I might use caricide and follow with fuadin.

5. Why does barrenness follow parturition trauma when the mare has returned to normal in every respect? Dr. John Britton: Even if the mare is bacteriologically negative, which she may not be, there may be such scars on uterus that the foal can't develop. It takes time. Doubt if such mares are really normal.

6. How do you handle trichomoniasis in a large herd? Dr. R. V. Jessup: Bulls can now be cured through use of bovofovin. Sodium iodide does not seem useful and may be harmful. The bovofovin is applied by massage for fifteen to thirty minutes, and injected up the urethra. Repeat in one to two weeks and wait three months before breeding. A recheck for organisms is wise.

7. How do you handle plugged urethra in male cats? Dr. Phillip McClave: Octin (BK) or metoprine may cause relaxation and spontaneous unplugging. The eye of a darning needle or similar instrument may clean the tract. Aureomycin 50 mg. every six hours is given as follow-up.

8. What do you use to stimulate post-operative wound healing? Dr. Farquharson: Circulation should be stimulated, and see that body metabolism and nutrition are normal.

9. Is your recommendation of stilbestrol for retained placenta based on theory or clinical experience? Dr. H. H. Cole: On theory.

10. What is the cause of kennel cough? prevention? Dr. I. M. Roberts: Cause unknown. Sterilizing lamps seem to help and avoid animal-to-animal contact. No drugs seem to help. Dr. J. L. O'Hara: Also be very careful about sterilizing the feeding equipment. Dr. John Craig: A virus like influenza complicated with *H. influenzae* can cause it. Some spirchetes involved: there are two syndromes. Atropine gr. 1/100 will relax the bronchi. (Lack of time stopped the discussion.)

11. Why use sutures in spaying? Dr. Farquharson: It is just not surgery to not suture an abdominal operation. A generous incision heals as quickly as a small one and results will be better. Even if the skin is pulled to one side to stagger the incisions, it is safer to suture.

12. Why do male cats show interest in spayed females? Dr. Cole: Any male will show interest in any female who does not actively object.

13. What hormones should be used for breast tumors? Dr. Nathan Friedman (Lederle): In both young and old dogs treatment is related to the season. Testosterone or aqueous orchic solution are recommended. For prostate hypertrophy it depends on the type. He referred to the work of Dr. F. X. Gassner, who was on our program last June.

Journal Review

Jelinek, Vincent (1950) The Distribution of Leptospirosis in Man and Animals in Czechoslovakia. *Medycyna Weterynaryjna*. V. 6, No. 7, pages 398-405.

The work is divided into three parts. The first deals with leptospirosis in carnivora and rodents and the role of these animals in the leptospirosis of man. There are short descriptions of many cases in man produced by *leptospira canicula* and *leptospiricterogenes*. In the second part the article discusses cases of leptospirosis in hogs and the relationship between the leptospirosis in hogs and man. In the third are described cases of leptospirosis in horses although there is no evidence of relationship between leptospirosis in horses and in man.

FLY CONTROL ON DAIRY CATTLE AND IN DAIRY BARNs. Gives control of horn flies, stable flies, and horse and deer flies, use of oil sprays, and use of insecticides. 1950 5¢ Twelve pages. Catalog No. A 1.35:283. Superintendent of Documents, Government Printing Office, Washington 25, D. C.

WHITE MUSCLE DISEASE OF CALVES AND LAMBS

By L. R. VAWTER, DVM, M.S., *University of Nevada, Reno**

White muscle disease of young lambs and calves, usually under two months of age, has been observed for many years. It is characterized by stiffness of the legs, inability to nurse, prostration, and death after a few days to a week. A characteristic grayish-yellow, streaked, or cooked appearance of the skeletal muscles occurring bilaterally is a prominent feature of this disease. Muscles of the legs, gluteal region, loins, abdomen, thorax, and neck may be affected. The disease, as described, has been most frequently observed in lambs but occasional cases have been seen in calves.

In recent years, a peracute type has been observed in calves, and it now seems to be predominant in western Nevada. This type develops suddenly with dullness and great respiratory distress, often accompanied by frothy or bloody nasal discharge. Death may ensue in 6 to 12 hours or young calves may be found dead. Marked passive congestion and edema of the lungs and marked acute degenerative changes in the musculature of the left ventricle and septum of the heart are the principal lesions. The heart muscle may have extensive yellowish streaks or massive degeneration areas. The heart lesions may not be readily detected unless the heart is opened and carefully examined. The skeletal muscle lesions are very limited or entirely absent.

At first, the peracute type was believed to be some form of acute bacterial or virus pneumonia because of the marked pulmonary congestion and edema. It is apt to occur in calves under one month old, but has been observed in older calves up to four months old by us as well as by Welch and others in Montana and Muth in Oregon.

Both types, the subacute with extensive skeletal muscle lesions, and the peracute with lesions mainly in the heart, have been observed in the same herd in the same lot of young calves. A peculiar feature is the occurrence of the large number of cases in calves from primiparous (first calf) heifers. In some herds, no cases occurred in older cows under identical feed conditions.

Another feature common to all herds in the past ten years is that the pregnant females were fed almost entirely on inferior grass hay without any grain or other concentrate supplements during the last three or four months of the gestation period. Generally speaking, the physical condition of the females was good or better than average. Two were registered Hereford herds. This is a disease seen in the spring months from late February to May.

This malady of young calves and lambs

usually disappears within a week or ten days after the flock or herd is turned to green pasture or a better diet of good mixed hay and grain supplement is given. From the work of Willman and associates at Cornell University, it is generally accepted that white muscle or "stiff lamb disease" arises from vitamin E deficient diet of the ewes during gestation. It could be prevented by diets containing this substance or tocopherols. Affected young lambs could be cured by dosing with tocopherols as reported by Willman et al. or with wheat germ oil concentrate as reported by Marsh of Montana. Unfortunately, the peracute type of myocardial dystrophy in young calves is so acute that they often die before any treatment can be started or they may be found dead.

We have seen young lambs develop muscular stiffness in two or three days after birth and die when 7 to 10 days old. The generalized skeletal muscle lesions were so advanced that it seems probable that they started during prenatal life. Likewise, young calves 10 or 14 days old, dead of the peracute form, had extensive myocardial degeneration of the left ventricles. The histopathology of the heart lesions indicated that they were so well advanced at time of death that they may have started before birth.

In view of Willman's results and our own experience with this disease, especially among calves in the past eight or more years, we believe it is preventable by using a better and more diversified diet during the last half of the gestation period. If good feed is scarce, give the first-calf heifers the best of it.

Probably our knowledge of the direct and contributing causes of this muscle disease is still incomplete. The prevalence of cases among calves from first-calf heifers compared to the few cases or none among calves from older cows in the same herd suggests some cumulative storage possibly vitamin E, with advancing age. But to my knowledge, the vitamin E requirement for cattle is not yet established. We have not yet evaluated the possible role of synergistic substances produced in that vast vitamin factory of the rumen by microbial action. Peculiarly, this disease is prone to occur before the rumen of calves and lambs becomes fully functional. Finally, are the extensive degenerative changes of muscles the primary point of injury, or only the terminal stage or objective effect of injury elsewhere and reflected at this point? Some of the foregoing questions must be solved before we can say we have all the answers regarding the cause of this disease.

*Presented January, 1951 at the CSVMA Mid-winter Conference.

AT THE PARKE-DAVIS EXHIBIT

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Orthopedic Methods Applicable To Veterinary Surgery

By JOHN R. VASKO, MD., Oakland, Calif.*

Fractures: Intramedullary pinning is useful in selected long-bone fractures, particularly of the femur and sometimes of the tibia. An opening is made at the fracture site and an angular nail inserted proximally through the greater trochanter region and through the skin. The direction is then reversed, and the nail driven down toward the knee but without injuring the joint. The patient may be ambulatory almost at once, but weight bearing is not permitted for a month or more lest the pin bend or break.

Dislocations: In some joints of the body, such as the knee or ankle, it may be difficult to maintain reduction of a dislocation, particularly when accompanied by fracture. When external support gives unsatisfactory results, transarticular pinning may be useful. After reduction, the joint is put into functioning position and a heavy pin is drilled through the bone across the joint and into the second bone of the articulation. I have advised some of my veterinary friends of this procedure and they have found it very useful, particularly in certain dislocations of the hip.

Tendon Injuries: Lacerations of the tendons, particularly the flexors, are a very serious problem. Extensor tendons are more easily united and the results are almost uniformly good. The ends of flexor tendons, however, frequently retract after severance causing a gap and resultant dysfunction. If sutured within the first four hours, and if the wound is not grossly contaminated, results should be very good. Immobilization should be maintained for three weeks, after which the splint can be removed and some motion permitted. If the injury is old, the tendon ends must be exposed, the scar tissue removed, and an attempt at apposition made. If the gap is too large and the ends can not be brought together, a piece of tendon, preferably from the extensor of the foot, can be utilized to bridge the gap.

Osteomyelitis: Osteomyelitis is less common and not so serious as in the past, but may follow compound fractures or bacteremia. If a course of antibiotics is not completely effective, the site of infection should be exposed. Loose pieces of dead bone should be removed, and the entire area cleared of anything that resembles dead tissue or debris. If the infection comes from a long bone, a channel is made into the medullary canal, which is then cleared of debris. Preferably the skin wound is closed, and antibiotics are continued after surgery.

Bone Grafting: When fractures fail to heal it is necessary to stimulate bone formation. The fracture site is exposed and the scar tissue, which usually covers the broken ends, is re-

moved. The medullary cavities are opened with a drill or curette. The ends of the bones are squared off so that they appose one another satisfactorily, and a bone graft is applied. This may consist of small chips of cancellous bone, or a larger piece of hard cortical bone can be applied above and below the fracture and secured with screws; bits of cancellous bone are then packed around the large piece. Fixation is required, such as a plaster cast or a Thomas splint, but it would seem that the intramedullary pin might be more desirable in small animals. Immobilization must be maintained until the callus is formed and clinical union is evident.

Pet Supply Dealers Pass Resolution

WHEREAS, the retail pet supply dealer is an integral part of every local community serving the pet owners thereof, and

WHEREAS, retail pet supply dealers stock and sell various and sundry remedies for pets as a regular part of their business; and

WHEREAS, the customers of pet shops on occasion are given to request, ask, and seek diagnosis and treatment for their injured, ailing and/or infirmed pets; now therefore

BE IT RESOLVED by the Associated Pet Supply merchandisers at their regular monthly meeting convened on this 13th day of November, 1949, that the active membership of this Association refuse to and refrain from prescribing, diagnosing or treating sick and/or injured pets of customers and that such customers be referred to a licensed veterinarian for such prescribing, diagnosing and treatment of their pets. That pet supply dealers, their assistants and employees confine their services and sales to the simple pet remedies regularly stocked and sold across the counter in their respective places of business. Further, that every effort be made by the membership of this organization to encourage the owners of pets to seek out and employ the services of a licensed veterinarian when such pets are sick, ailing or injured.

IT IS FURTHER ORDERED AND DIRECTED that a copy of this resolution, unanimously passed by this Association, be spread upon the minutes of this organization.

LLOYD E. HOLLIDAY, *President.*
IRVIN C. FREDRICKSON, *Secretary.*

The annual convention and trade show of the National Retail Pet Supply Dealers' Association will be held October 13, 14, and 15 at the Hotel Whitcomb in San Francisco.

*Presented by B. F. Murray for Dr. Vasko, at the 63rd Annual Convention of the CSVMA.

The Los Banos "Hot Spot"

This is the story of how anthrax was "cooled" in the Los Banos hot spot. Because the Los Banos, California district had such a notorious anthrax history, it was singled out by Cutter Veterinary Scientists as the site for field research . . . in an effort to find biological products capable of preventing and holding anthrax.

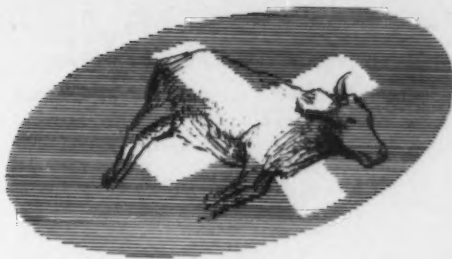
30,000 Cattle Act As Guinea Pigs

Anthrax losses around the country totalled millions of dollars annually; thus the need for effective control was great. For years Cutter Veterinary and Research Scientists worked in the Los Banos area and in the laboratory . . . developing and testing various products in order to find a better means of protecting cattle. All in all, their field research involved over 30,000 head.

The need for anthrax vaccine improvement became apparent since it was found that Anthrax Spore Vaccine No. 2 with Anti-Anthrax Serum proved ineffective in the face of severe exposure to anthrax experienced in the Los Banos area and in Louisiana. Nor did repeat doses of No. 2 Spore Vaccine prove of much value. In the search for a better vaccine the researchers developed a No. 3 spore strength. Used with serum, it gave better protection but didn't completely solve the problem. Then, by more selective attenuation methods, a No. 4 spore strength was produced. No. 4 spore vaccine, which was a little hotter than No. 3, did the job. This Cutter Simultaneous Spore No. 4 Vaccine and Serum method of immunization was developed during the early 20's and became the standard by which all other anthrax products were judged. However, the cost was higher than the old No. 2 spore and serum simultaneous method because a larger serum dosage was necessary to immunize safely.

Introduction of Single-Dose Vaccine

Cutter Laboratories continued developing and testing until they came up with a more practical vaccine . . . a No. 4 spore vaccine that was Alhydrox® (Aluminum Hydroxide) adsorbed—more practical because it cost less and was more convenient. By adsorbing the No. 4 spore on Alhydrox the rate of absorption in the animal after injection was much slower. This prolongation of the immunizing stimulus results in the development of a high and lasting immunity on the part of the vaccinated animals. Thus, this method provides a single-dose vaccine that gives adequate protection in most anthrax areas . . . and is safe without serum. This single-



dose vaccine is known as Charbonol®. No single dose vaccine gives complete seasonal protection in notoriously bad areas so in these hot areas a booster dose of No. 4 SPECIAL vaccine was found to give the needed additional protection.

Today's Prevention and Control of Anthrax

The efforts of many years of Cutter research are evident by the various specific anthrax products now available to the Veterinary profession for use in varied conditions.

Charbonol—Cutter . . . a single-dose vaccine that is the product of choice for pre-seasonal immunization against anthrax.

Special Anthrax Spore Vaccine No. 4—Cutter . . . for use in combination with anti-anthrax serum for quick, economical check of infection during actual outbreaks. In notoriously bad areas it may be used alone to boost immunity to a very high degree in animals that have been vaccinated with Charbonol 21 to 90 days previously.

Anti-Anthrax Serum (Equine)—Cutter . . . for use alone or with penicillin (Penivet—Cutter) in the treatment of sick animals. Also for use with Spore Vaccine No. 4 (Special) on well animals during an outbreak.

★ ★ ★

For new products developed through continuing laboratory and field research, count on Cutter Laboratories, 3rd oldest biological laboratory in the United States.

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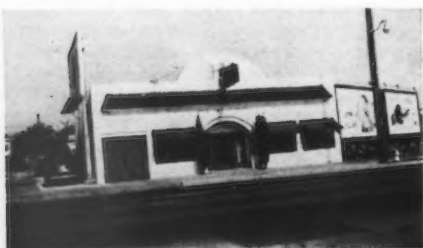
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OPPORTUNITIES

For Sale or Lease

Established veterinary hospital in Oakland for sale or lease 60x150. Has 25 indoor kennels. 36 outdoor runs. 5 room house in rear. Will take 1/4 down on long time terms at 5% or lease with option to buy and rent to apply on purchase price. Contact Dr. A. C. Soave, 5666 Telegraph Avenue, Oakland, California.



For Sale—Well equipped hospital, 40 kennels. Two man mixed practice. Dr. R. A. Ball, P. O. Box 491, Modesto.

For Lease—New and modern small animal hospital with equipment to be leased to an experienced and competent veterinarian. 50 miles from Los Angeles. Exclusive clientele. Low overhead with gross of \$40,000. Must make change and sacrifice this highly profitable practice. Box 6-A, The California Veterinarian.

For Lease—Mixed practice in Valley Town. Two year lease. May lead to permanent stay. All modern equipment. One man practice. Mostly small animals. House adjoining for living purposes. Box 6-C, The California Veterinarian.

For Sale—Small animal hospital of 29 kennels and boarding kennels in former horse hospital. Practice is entirely small animal, but there is a good potential large animal practice if one wishes to re-build that feature. Real property is on N. Oak Street in Ukiah, 120 feet on Oak, extending 200 feet deep. Health is reason for selling. Price \$40,000, with terms of around \$15,000 cash. Dr. E. C. Morris, 1100 N. Oak, Ukiah, California.

Will Buy

Will pay cash for hospital, with or without living quarters if owner will operate until I can be licensed in California. No blue sky. Box 6-B, care of Mr. Travers, 3004 Sixteenth Street, Room 208, San Francisco 3.

Position Wanted

Mature intelligent woman wants technician position in animal hospital. Has her own portable X-ray and will do necessary laboratory work. Has had 30 years' experience with humans, hence the desire to work with animals. Write Mrs. L. Baynard, care 194 Guerrero Street, San Francisco. HE. 1-5381.

For Sale or Position With a Future

Small animal hospital. Long established, not fancy, but is a money maker due to exclusive and protected location closest to wealthiest and most compact quarter of California's fifth largest city. Also is as close as any other hospital to the vast new housing tracts. Will consider a good man to operate on a share the profit plan on a sliding scale with option to buy when you are ready. No real estate to buy, but a long term lease so can be easily handled financially. Owner had to leave state due to family difficulties but I am keeping it in operation with full-time lay help. For further details contact Dr. Melvin J. Marcus, 3198 Orange, Long Beach 7, Calif., phone 48976.

Air Force Wants 125 Vets

The U. S. Air Force needs 125 veterinarians during the next year, Major General Harry G. Armstrong, Surgeon General, USAF, recently announced, to meet the needs of the expanding and wide-spreading Air Force. If interested write Department of the Air Force, Office of the Surgeon General, Washington 25, D. C.

Notice to Employers

There has been a complaint filed with the secretary against a kennel man in the bay area district. Any practitioner desirous of information regarding a kennel man they may be contemplating hiring, may write Dr. Robert E. Richter, 2265 Alum Rock Avenue, San Jose, for description of offender.

Assistant Needed

Assistant veterinarian for Small Animal Clinic. Dr. Willetts, 11170 Olympic Blvd., Los Angeles 64, California.

Appointment For Veterinarian

To investigate and inspect laboratories using animals for experimental or diagnostic purposes, a veterinarian will be appointed by the State Department of Public Health by September 23.

Requirements: Civil Service examination will be given 6 months after appointment.

Apply: Dr. Ben Dean, 2180 Milvia, Berkeley. Telephone: BErkeley 7-7203, Extension 28.



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*for the treatment of the widest
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To widen the scope of modern day therapy, Pfizer offers the newest of the broad-spectrum antibiotics in addition to those long standard in the practice of veterinary medicine.

CRYSTALLINE Terramycin HYDROCHLORIDE



veterinary preparations are indicated in the systemic therapy of pneumonias, bacterial complications of distemper, generalized bacterial infections of the upper respiratory tract, tonsillitis, bronchitis, pharyngitis, ear infections, cystitis, nephritis, feline infectious rhinitis, secondary bacterial complications of feline infectious enteritis, peritonitis, infected wounds and soft-tissue infections.

CAPSULES VETERINARY

250 mg. capsules, bottles of 16 and 100;
100 mg. capsules, bottles of 25 and 100.

INTRAVENOUS VETERINARY

10 cc. vials, 250 mg.;
20 cc. vials, 500 mg.

In the topical therapy of abscesses, boils, infected wounds, external ear infections, local post-surgical infections; conjunctivitis.

OINTMENT VETERINARY

30 mg. per Gm.; tubes of 1 oz. (28.4 Gm.)

Together with Terramycin veterinary, these standard therapeutic agents of characteristic Pfizer quality constitute a complete antibiotic armamentarium for veterinary practice.

Procaine Penicillin G Crystalline in oil with
2% aluminum monostearate veterinary
Potassium Penicillin G Crystalline veterinary
Procaine Penicillin G Crystalline in aqueous
suspension veterinary
Streptomycin Sulfate veterinary

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Antibiotic Division



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Registrants at the June Convention

Leon Ackermann, R. S. Adams, Walter Anderson, Joseph M. Arburua, H. M. Atkinson, Victor Austin, E. V. Bacon, R. K. Balch, Robert A. Ball, Banes Laboratory represented by James K. Banes, Donald E. Barr, W. C. Bateman, E. C. Baxter, T. G. Beard, Julius Berchem, Alfred Bernkrant, Herminio Bernas, Joseph Bickmore, Elmer Bogart, A. G. Boyd, E. R. Braun, Joseph F. Brown, W. A. Browne, Ben Burdo, H. C. Burns Co., Inc., represented by Henry C. Burns, member, and George C. McConnell, exhibitor.

H. S. Cameron, California Medical Supply Company represented by H. J. Gilbride, Charles Decevel and Dewitt Wilson, Thomas J. Carleton, Paul A. Carlson, John B. Carricahuru, Howard Carro¹¹, N. H. Casselberry, Central City Chemical Consolidated represented by Leo Lindauer and Lloyd Myers, Albert Chafets, John Christensen, L. G. Clark, G. W. Closson, J. A. Coad, H. H. Cole, C. B. Collins, R. L. Collinson, C. H. Colton, L. F. Conti, G. K. Cooke, Max Coons, C. D. Cooper, Ben Corbin, John Craigie, W. M. Crow, Walter B. Crowl, Norman Cunningham, Cutter Laboratories represented by C. L. Findlay, J. McKenzie and Wesley Walker.

J. Lavery Davidson, Ben Dean, C. R. Dean, P. D. DeLav, Desitin Chemical Co. represented by Stan Kasprzycki and Sol Upsher, H. E. Dettlefsen, Charles Dimon, Jack Dinsmore, R. N. Donnelly, R. E. Duckworth, Marv Knight Dunlap, James Ebaugh, E. V. Edmonds, Thomas Eville, Robert J. Foster, Arthur J. Freid, S. A. Fuller, Philip Gsell.

C. L. Hore, J. W. Harrison, C. E. Harvy, George H. Hart, Marvin Harvey, Kenneth Hayes, Clifton Havel, R. L. Hawes, Joseph Hird, Samuel Hodesson, E. H. Houchin, George Humphrev, Weden Humphrev, L. M. Hurt, Hill Packing Co. represented by C. G. Black and George M. Green, A. R. Inman, Gilbert Jackson, Jensen-Salsbery Laboratories represented by L. A. Stockbauer and G. G. Graham, Vince Jessup, Darr Jobe, Kenneth L. Johnson, Eugene Jones, E. E. Jones.

John King, Oscar J. Kron, Raymond Law, H. H. Laskey, Lederle Laboratories represented by G. Capitanian, A. Tobias, R. C. Schock and E. Johnson, Milton Levv, John Lewis, C. D. Litton, David Low, Richard Macv, Melvin Marcus, The S. E. Massengill Co., represented by J. R. Harris, J. E. Menter, Robert Michael, John Micuda, J. H. Miller, W. C. Mitchell, J. H. Moore, W. E. Mottram, D. L. Moyer, B. F. Murray.

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Congratulations From Spain

The following letter was received too late to deliver at the business meeting:

Sociedad Veterinaria De Zootecnia,
Secretaria General, Madrid

The Veterinary Society of Zootechnics of Spain congratulates the California State Veterinary Medical Association of the United States of North America, and has the pleasure of sending most sincere felicitations and salutations on occasion of their 63rd Annual Convention which began the 25th of June, 1951.

We are devoting all our time to the preparation of the II International Congress of Zootechnics, which will be held in Madrid this coming October; our Society cannot send a representative to your 63rd Convention, but hopes that next year on the occasion of your 64th convention that the Veterinary Society of Zootechnics can send their representative in order to meet with your important American Society which is in one of the most nostalgic regions of pleasant memories for the Spanish and has conserved in the names of your cities, of your mountains and rivers, of your streets, and of your general geography many Spanish words of the days gone by.

We beg Mr. President when reading this communication to your colleagues present at your 63rd Annual Convention, that you express to them the amity of the Spanish veterinarians, who identify themselves with you with their professional spirit and their mission of service in the good of humanity and the production of livestock corresponding with the good ambitions of all human society. The members of our Society send to the members of yours their friendly sentiments for the great North American nation, which along with Spain has always been a great source of accomplishments for civilization, culture, and liberty which identifies us with you.

We send, Mr. President, the best personal wishes of good will to all the distinguished members of the California State Veterinary Medical Association.

Madrid, June 17, 1951.

- s. Dr. Pedro Carda Gomez, President.
- s. Prof. Dr. Carlos Luis de Cuenca, Technical Secretary.

Mid-Winter Conference

Mid-Winter Conference of the California State Veterinary Medical Association will be held at the School of Veterinary Medicine, Davis, California, January 28, 29, 30, 1952.

B. C. Watson, Floyd H. White, Clyde Whitson, C. E. Wicktor, F. P. Wilcox, J. E. Wilson, J. S. Winson, D. H. Wixom, W. J. Zontine.

Trouble Months Ahead . . .

ENCEPHALOMYELITIS

It is good business for you and your clients to remind them of possible trouble from encephalomyelitis in horses. The monetary value of good horses is always high, and the value of the ordinary horse is higher now than for several previous years.

One need not hesitate when considering the value or efficiency of encephalomyelitis vaccine. The only hesitation: selecting the producer, and the strain of vaccine for your particular geographical area. Midwestern and southern areas would do well to select bivalent vaccine for immunization, due to the westward spread of the eastern strains of virus.

Lockhart has never failed the profession, has always had adequate supplies of these vaccines available in event of outbreaks.

Only fresh embryo tissues are employed in Lockhart production, never frozen embryo stock, accounting for some of the high antigenic value of Lockhart vaccine.

Encephalomyelitis Vaccine Lockhart is available as Eastern, Western, and Bivalent strains, in single and bulk packages of good dating to fit the needs of discriminating veterinarians.

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UP AND DOWN THE STATE

A barbecue and picnic was held by the Mid-Coast Veterinary Medical Association on Sunday, June 10th, as a farewell party for two of its members who have left for greener pastures. Dr. Dean C. Lindley, who since the end of the war has been associated with the California Polytechnic College in San Luis Obispo, is leaving to enter practice with Dr. Fred B. Walker in Escondido, while Dr. William Hulsebush, who has been in charge of the meat inspection for the San Luis Obispo district of the State Department of Agriculture, is leaving to take over another plant in Huntington Beach.

Dr. Frank P. Mathews of Santa Maria has sold his small animal practice to Dr. Richard Ainley.

Dr. J. R. Whitman of San Luis Obispo, his wife and two daughters, are on a vacation and fishing trip in British Columbia.

Dr. and Mrs. D. C. Graham of Gonzales have returned from a three weeks trip through the Southwest and Mexico. They traveled east as far as Kansas City, and apparently were successful in missing the recent disastrous floods of that area.

Members of the San Diego County Veterinary Medical Association recently chartered the sportfisher "Miss California," and enjoyed a very successful fishing trip to the Coronado Islands of Mexico. Those making the trip were Drs. Mitchell Smith, Norman Jerome, Phil Haims, Hugh Rockwell, Rex Puterbaugh, Cyril Padfield, Harlen Case, Paul Carlson, and Bob Burns. Phil Haims was high man with a beautiful 18-pound yellowtail.

Dr. "Isaac Walton" Conti has left for the wilds of Idaho and Nevada on another of his frequent fishing expeditions. He is firmly convinced that if he tries long enough and hard enough he will catch a fish.

Dr. Robert Fuller (Wash. '50) is now in practice with his brother, Dr. S. A. Fuller of Arcata. Dr. S. A. Fuller has recently opened his fine new hospital there and is fully equipped for both large and small animal practice.

The Humboldt County Veterinary Medical Association has gone on record as favoring veterinary inspection at the Humboldt Auction Yards. They are to be commended for their civic-minded attitude in this matter.

Dr. Ian C. McDonald, formerly of Santa Barbara, is now practicing in Visalia. He has taken over Dr. George Rey's hospital.

New officers elected for the coming year in the Central California Veterinary Medical Association are: Drs. L. C. Witcosky, president; I. G. LaRue, vice-president; and W. E. Smith, secretary. Mrs. T. B. Eville was elected president of the Women's Auxiliary; Mrs. L. C. Witcosky, vice-president, and Mrs. A. R. Inman, secretary.

Dr. Burt Rice is now associated with Dr. R. B. Tangeman of Pomona in general practice.

The Orange Belt Veterinary Medical Association recently voted that members officiating at A.K.C. sponsored dog shows be paid a fee (considerable) or not serve.

Annual "Ladies Night" was held recently by the Orange Belt Association at the Arrowhead Springs Hotel. Big time, much fun!

Dr. H. W. Mackey is now practicing at Oxnard.

From the Bay Area comes news that Dr. Henry has recently enjoyed a trip to Oregon and Yosemite. Dr. George Eberhart is planning a trip to Manhattan, Kansas. Dr. Bigelow has returned to Palo Alto for the summer, after spending many months at the desert because of arthritis. Dr. Joe Arburua has returned from a vacation in Monterey and Inverness.

Dr. Ronsse in July again invited all the members of the North San Joaquin Valley Veterinary Medical Association and their wives to his home in Turlock for a steak barbecue.

The San Fernando Valley Association enjoyed a buffet supper, plus all liquid refreshments possible to consume, August 4th at the Van Nuys American Legion Hall.

Our member A. C. Tew of Yuba City is now Captain A. C. Tew, 3450 Medical Group, Francis Warren, A.F.B., Cheyenne, Wyoming, and member William Woodward of Modesto is with 1706 Medical Group, Mountain Home, Idaho.

Cornell Research Laboratory For Diseases of Dogs

The Cornell Research Laboratory for Diseases of Dogs has been operating for almost a year. Since veterinarians all over the country profit from the findings made in this laboratory and since government funds are not available in the size which will support the amount of research being carried on veterinarians are asked to contribute to help support this institute which has been made possible only through the private contributions of veterinarians and veterinary organizations.

Statistics show that each year over 2,000,000 dogs die from unknown causes. Information from this laboratory is dispensed as quickly and widely as possible to interested parties. Kindly forward contributions to: Joseph D. Minogue, Director, Dog Laboratory.

Houchin Appointed To State Board

Gov. Earl Warren recently appointed Dr. Ernest H. Houchin, Ventura veterinarian, to the board of examiners in veterinary medicine, the United Press reported.

Houchin succeeds Dr. E. P. Sheffield, San Diego, whose term expired.

Give your clients maximum protection

Use **RABIES VACCINE**

Modified Virus (Chick-Embryo Origin — Vacuum-Dried)

AVIANIZED* *Lederle*

The modern approach to the problem of canine rabies

Here are the reasons why **RABIES VACCINE AVIANIZED Lederle** is the best product available for the active immunization of dogs against rabies—

- A single intramuscular injection induces solid immunity for more than a year.
- In comparative controlled tests, in which vaccinated dogs were challenged with massive doses of pathogenic rabies virus, **RABIES VACCINE AVIANIZED** has always afforded more enduring immunity than inactivated virus vaccine of nervous tissue origin.
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- Potency-tested by a new method, which most nearly parallels the type of infection encountered in nature, for positive demonstration of immunity.
- A desiccated product that retains the uniform, high potency of fresh vaccine for many months.

RABIES VACCINE AVIANIZED Lederle is a truly modified, highly antigenic rabies virus, adapted by serial passage to an entirely foreign host, the chick embryo.

Investigators agree that **RABIES VACCINE AVIANIZED** is well-tolerated and highly effective. In thousands of dogs vaccinated to date, results have been highly satisfactory.

Available only to veterinarians, subject to the instructions of the State Veterinarian or State Public Health Officer. *Reg. U. S. Pat. Off.

PACKAGES: 1 dose (1 vial Vaccine; 1-3 cc. vial diluent); 5-1 dose packages.
5 doses (5 vials Vaccine; 1-15 cc. vial diluent).

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BEXZONE POWDER

destroys FLEAS-LICE-TICKS

**on dogs and
farm animals**

The new, improved formula for Bexzone Powders makes this a leading insecticide for the destruction of Fleas, Lice and all species of Ticks. Bexzone can be used freely on both large animals and dogs without any harmful effect. Simply dust Bexzone into the animals' coat and allow the powder to remain as long as twenty-four hours. It is also advised that to prevent the animal from becoming reinfested, bedding and sleeping quarters should be well sprinkled with Bexzone. The Bexzone formula contains 1% Rotenone, 1% Gamma Isomer (Lindane), and 1.6% Cube Resins. In this mixture, unpleasant odors have been minimized.

Order some of this highly potent, dependable and economical Bexzone Powder today.

SUPPLIED IN:

Carton doz. 4 oz. sifter cans (dispensing label)

Carton 15-1 oz. plastic sprayer tubes (disp. label.)



HAVER-GLOVER (H) LABORATORIES

KANSAS CITY, MISSOURI

NOTE: Because of extreme infectivity of virus and rapid course of disease, all exposed dogs should receive prophylactic injections.



Liver and gallbladder of 3 month puppy with Infectious Canine Hepatitis (autopsy specimen)

*Alarming
on the Increase*

INFECTIOUS CANINE HEPATITIS

- Particularly virulent in young dogs, 3 to 6 months of age.
- Strikes with extreme suddenness
- Morbidity in young dogs is high
- Has often remained unrecognized
- Frequently mistaken for "distemper breaks" and "worm fits"
- Causation known to be filtrable virus.

Now—A Specific Hyperimmune Serum for Effective Prevention and Treatment is available in—

Anti-Infectious Canine Hepatitis Serum

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DOSAGE: For Prevention and Treatment:
0.5 cc. per lb. body weight, repeated as indicated.

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You can administer **Tympanol** as you prefer . . . by direct injection, or by mouth (diluted with water), or by a combination of the two. Give 100 cc. per head of cattle . . . 25 cc. for sheep.

The frothy bloat season will soon be here . . . so make certain you have a sufficient supply of **Tympanol** on hand . . .

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